



OPERATING AND MAINTENANCE INSTRUCTIONS

MACHINE GUN 7.62MM, M 60 (MOD)

SPRINGFIELD ARMORY
Springfield , Massachusetts



J

MACHINE GUN, 7.62MM, M60 W/E (MOD)

		Para.	Page
Chapter 1.	INTRODUCTION		
Section I.	General	1-3	3-5
II.	Description and data	4-5	6-7
Chapter 2.	OPERATING INSTRUCTIONS		
Section I.	Service upon receipt of materiel	6-7	8-9
II.	Controls	8-9	10-12
III.	Operation under usual conditions	10-21	13-20
IV.	Operations under unusual conditions	22-26	21-24
Chapter 3.	ORGANIZATIONAL MAINTENANCE INSTRUCTIONS		
Section I.	Repair parts, tools, and equipment	27-31	25-26
II.	Lubrication	32-34	27-28
III.	Preventive-maintenance services	35-43	29-37
IV.	Troubleshooting	44-45	38-39
V.	Barrel Assembly	46-51	40-41
VI.	Bipod Assembly and Gas Cylinder Group	52-57	42-43
VII.	Trigger Mechanism Group	58-63	44-46
VIII.	Butt Stock Assembly	64-68	47-48
IX.	Forearm Assembly	69-73	49-50
X.	Cover Assembly and Tray Assembly Group	74-79	51-53
XI.	Buffer Assembly and Operating Rod Assembly Group	80-84	54-56
XII.	Bolt Assembly	85-90	57-58
XIII.	Receiver Group	91-95	59-60
XIV.	Maintenance under unusual conditions	96-98	61-62
Chapter 4.	AMMUNITION		63
Chapter 5.	DEMOLITION OF MATERIEL TO PREVENT ENEMY USE		64

		Page
Appendix	I	
	II	
	III	
	REFERENCES	65
	BASIC ISSUE ITEMS LIST	66
	MAINTENANCE ALLOCATION CHARTS	67

CHAPTER I

INTRODUCTION

Section 1. General

1. Scope.

a. This manual contains instructions for operation and organizational maintenance of the 7.62MM machine gun M60 (MOD).

b. Appendix I contains a list of technical manuals, applicable to the machine gun.

c. Appendix II contains the basic issue items which are required by first-echelon maintenance and includes accessories, tools, supplies, spare assemblies and parts accompanying the equipment, all of which constitute the major end item for issue to users.

d. Appendix III contains the maintenance allocation chart for the machine gun and mount, listing all maintenance and repair operations authorized for all maintenance echelons.

e. The direct reporting by the individual user of errors, omissions and recommendations for improving this manual is authorized and encouraged. DA Form 2028 recommended Changes to DA Technical Manual Parts Lists or Supply Manual 7, 8, or 9) will be used for reporting these improvements. This form will be completed in triplicate using pencil, pen, or typewriter. The original and one copy will

be forwarded to: Commanding Officer, U.S. Army, Springfield Armory. ATTN: SWESP-RES, Springfield, Mass. 01101. One information copy will be provided to the individual's immediate supervisor (officer, non-commissioned officer, supervisor, etc.).

2. Maintenance Allocation.

a. Operator Maintenance Allocation. The prescribed maintenance to be performed by the operator will apply as reflected in the operator-maintenance (first echelon) column of the maintenance allocation chart (Appendix III). In all cases where the nature of the repair, modification, or adjustment is beyond the scope or facilities of the operator, trained organizational maintenance personnel with suitable tools and equipment may be provided or other instructions issued.

b. Organizational Maintenance Allocation. The prescribed maintenance to be performed by maintenance personnel of the using organization will apply as reflected in the organizational maintenance (second echelon) column of the maintenance allocation chart (Appendix III). In all cases where the nature of the repair, modification, or adjustment is beyond the scope or facilities of the using organization, the supporting ordnance maintenance unit should be informed so that trained personnel, suitable tools and equipment may be provided or other instructions issued.

3. Forms, Records, and Reports.

a. Authorized Forms. The forms generally applicable to units operating or maintaining this materiel are listed in appendix I. For a listing of all forms, refer to DA Pam 310-2.

b. Field Report of Accidents.

(1) Injury to personnel or damage to materiel. The reports of the Army safety program are listed in AR-385-40. These reports are required whenever accidents involving injury to personnel or damage to materiel occur.

(2) Ammunition. Whenever an accident or malfunction of ammunition occurs (paragraph 16), firing of the remainder of the lot which malfunctions will be immediately discontinued. In addition to any applicable reports required in (1) above, details of the accident or malfunction will be reported as prescribed in AR 700-1300-8.

c. Equipment Improvement Recommendations. Deficiencies detected in the equipment or materials, should be reported using the Equipment Improvement Recommendation section of DA Form 2407.

Section II. Description and Data

4. Description

The 7.62MM machine gun M60 (mod) (fig 1) is described as follows:

a. The machine gun (fig 1) is an air-cooled, link belt fed, gas operated weapon. Single rounds, short bursts or automatic fire (approximately 600 rounds per minute) can be easily fired. The gun is designed to be fired from the shoulder, hip, sitting or prone position. In the sitting or prone positions the bipod assembly or the M122 mount may be used. The quick-change barrel feature extends the life of the weapon by utilizing a spare barrel. The primary use of this weapon is for ground operation.

b. The front sight is mounted on the barrel in a fixed position. The rear sight is mounted on the receiver in front of the cover assembly by means of a dovetail base. It is used in conjunction with the front sight to align the gun on target. In the travel position, the rear sight leaf assembly is folded forward to prevent damage to the sight. Elevating adjustment is accomplished by either the quickset-type elevation release assembly for approximate setting or the vernier elevation knob for 1/2 mil per click fine adjustment. The vernier-type windage knob is on the left side and provides 1 mil per click adjustment. The sight leaf is calibrated from 3 to 11 in hundreds of meters.

c. A flash suppressor is affixed to the front of the barrel assembly.

5. Tabulated Data

Type	ground machine gun
Ammunition	7.62MM, all types
Weight	23.7 lb
Length	overall, 43 1/2 in.
Rate of Fire	600 rd per min (approx.)
Type of Operation	gas
Method of Feeding	link belt
Range (maximum)	See FT 7.62-A-2
Capacity of magazine	100 rounds

CHAPTER 2

OPERATING INSTRUCTIONS

Section 1. Service upon Receipt of Materiel

6. General.

a. When a new or reconditioned machine gun and/or mount is received, it is the responsibility of the officer in charge to determine whether the materiel has been properly prepared for service by the supplying organization and to be sure it is in condition to perform its function.

b. All repair parts, tools, and equipment will be checked with the listing in appendix II.

c. A record will be made of all missing parts, tools, and equipment and of any malfunctions.

7. Services.

a. When preparing for use, weapons that are volatile corrosion inhibitor (VCI) packed, the following procedures will be followed:

(1) Unpacking. Open container and remove gun and equipment. Remove VCI wrapping and bore tube from barrel bore. Clean per paragraph (2) below and assemble.

(2) Cleaning. Wipe off excess oil with a clean dry cloth. Run a clean dry patch through the bore of the weapon before firing.

(3) Lubrication. Lubricate as indicated in paragraphs 32 through 34.

(4) Inspection. Operate all controls of the machine gun (paragraph 9) to see that they function properly.

b. Barrel Assembly and Bipod Assembly. When preparing for use, the barrel assembly and bipod assembly that is volatile corrosion inhibitor (VCI) packed, the following procedures will be followed:

(1) Unpacking. Open container and remove the barrel assembly and bipod assembly. Remove VCI wrapping and bore tube from barrel bore.

(2) Cleaning. Wipe off excess oil with a clean dry cloth. Run a clean dry patch through the bore of the barrel.

(3) Lubrication. Lubricate as indicated in paragraphs 32 through 34.

(4) Inspection.

(a) Install barrel assembly, bipod assembly and gas cylinder group on gun (para. 50.)

(b) Make certain that the barrel locks securely in gun.

(c) Operate the bipod legs (paragraph 11a) and observe for smoothness while functioning.

Section II. Controls

8. General.

This section describes, locates and illustrates the various controls provided for the operation and organizational maintenance of the machine gun.

9. Machine Gun Controls.

a. Latch Lever Assembly. The latch lever assembly actuates the cover latch, which is spring-loaded and is located at the right rear end of the cover assembly. The function of the lever is to secure the cover in the closed position. When the lever is vertical, it is in the locked position. Turning the lever clockwise to the rear or horizontal position unlocks the cover.

b. Barrel Lock Lever. The barrel lock lever is located on the right front end of the receiver. The lever is secured to the barrel locking shaft and rotates the shaft to lock or unlock the barrel assembly. The lever, when in a vertical position, unlocks the barrel and when lowered to a horizontal position, locks the barrel.

c. Cocking Handle Assembly. The cocking handle assembly is located on the right side of the receiver between the cover and trigger assembly. Its function is to charge the weapon manually. When the handle is pulled to the rear, the bolt is retracted to the cocked position. **WARNING:** Cocking handle must be returned to the forward or locked position before firing to prevent injury to personnel.

d. Small Arms Safety. The small arms safety is located on the left side of the trigger mechanism grip assembly. Its function is to prevent the weapon from being fired accidentally. The action of the safety is controlled by moving the safety from either "F" to "S" stations, marked on the trigger housing assembly, to the desired position. When it is in the DOWN position (towards the "S"), it indicates that the safety is engaged.

e. Trigger Assembly. The trigger assembly is located below the receiver directly under the feedway. Its function is to control the firing of the weapon. With the safety in the UP position (towards the "F"), pressure on the trigger cams the sear from the sear notch on the operating rod and activates the firing of the weapon. With the safety in the DOWN position (towards the "S") and the bolt retracted, pressure on the trigger will not allow the bolt to go forward.

f. Rear Sight. The rear sight has three controls.

(1) Elevation release assembly. The elevation release assembly is located on the upper right side of the rear sight leaf assembly. Its function is to release the sight slide for major changes in elevation. Press in, to release aperture. Relieve pressure to lock in desired setting.

(2) Elevation knob. The elevation knob is located

on the lower right side of the rear sight leaf. The function of the knob is to provide fine vertical adjustment of 1/2 mil per click on the sight slide. Turn the knob clockwise to raise the slide. To lower the slide, turn knob counterclockwise.

(3) Windage knob. The windage knob is located on the left side of the sight base. The function of the knob is to provide accurate lateral adjustment of 1 mil per click on the sight leaf. Turn the knob clockwise, to move leaf to the left. To move leaf to the right, turn knob counterclockwise.

Section III. OPERATION UNDER USUAL CONDITIONS

10. General.

This section contains instructions for the operation of the machine gun under conditions of moderate temperatures and humidity. Instructions for operation under unusual conditions are covered in paragraphs 22 through 26.

11. Preparation for Firing.

a. The machine gun may be fired from the standing, prone or sitting position.

(1) When using the bipod, the bipod legs will be released from the horizontal position and moved to the vertical position, right angles to the barrel.

(2) When using the mount M122, move the front legs to the forward position and snap the rear legs to the open position. Grasp the carrying handle assembly of gun and position opening in bottom of forearm over prong of platform assembly. Engage platform latch.

(3) Release traversing slide lock assembly lever and push adapter forward over receiver mounting plate until the adapter locks the weapon in place.

b. Check all ammunition to be sure proper type and grade is being used and that the rounds are securely assembled, positioned and aligned in their push-through type link.

c. Check machine gun to see if it has been thoroughly cleaned, lubricated and is in working order.

d. Open shoulder rest on butt stock.

e. Position the carrying handle so it will not interfere during aiming and firing.

12. Service Before Firing.

Perform the before-firing operations as described in table 1, 1st echelon, Preventive-Maintenance Check and Services.

13. Loading.

a. Retract bolt by pulling cocking handle fully rearward until engaged with sear and push handle to the forward position.

b. Move small arms safety down towards the "S" (safe) position.

c. Turn latch lever assembly rearward to the horizontal position and raise cover. The feed tray will remain in place on the receiver rails.

d. A magazine assembly 7792669 (figure 2) is furnished to hold a bandoleer of belted ammunition just below and to the left of the feed tray.

e. Place the link belt with the open sides of the links down on feed tray (figure 3) making certain that the first round to be fired is in the feed tray groove.

f. Close cover making certain it is latched securely.

NOTE: To fire a single round: (1) retract bolt, (2) move safety to "S" (safe) position, (3) raise cover, (4) make sure chamber is empty, (5) position round in feed tray groove

and (6) close cover to hold round in place.

14. Firing.

a. With the gun positioned, loaded, and aimed, push safety forward and up into "F" (fire) position.

b. Pull on trigger assembly fully to the rear and hold to fire gun automatically.

c. The trigger must be completely released to interrupt the firing of short bursts, single rounds or continuous rounds.

d. Single rounds or short bursts can be easily fired.

Note: If barrel assembly is to be removed and changed, refer to paragraph 47.

15. Ruptured Cartridge Case.

a. In some cases of complete rupture of a cartridge case, the forward portion of the case remains in the chamber and extraction is accomplished only on the rear portion.

When a rupture of this type occurs it is difficult to detect the portion lodged in the chamber as the gun will continue to function and a new round will be fed into the chamber.

The following can result from such a malfunction:

(1) Incomplete chambering of the next round since the round being fed into the chamber cannot be fully seated.

(2) A round driven into the ruptured case without detonation. Removal of the round will be accomplished as follows:

(a) Proceed with instructions contained in paragraph 17 and "b" below.

(b) Place the cleaning rod 6508237 into the muzzle end of the barrel until it touches the obstructed cartridge. Tap the rod gently with the hand and remove the cartridge and portion of the case.

b. If the ruptured case is lodged in the chamber, insert the ruptured cartridge case extractor 7790352 completely through case in the chamber. Insert cleaning rod 6508237 into muzzle end of barrel and, by tapping lightly with the hand, remove case.

16. Misfires, Hangfire, and Cook-off.

a. General. The malfunctions described below, though rarely encountered when authorized and properly maintained ammunition is fired in properly maintained and operated machine guns, must be followed so that all personnel concerned will know the nature of each kind of malfunction as well as the proper preventive and corrective procedures in order to avoid injury to personnel or damage to materiel.

WARNING: In the event of a misfire the round will remain locked in the chamber for the prescribed time intervals, the gun trained on the target, and personnel cleared from the area.

b. Misfire. A misfire is a complete failure to fire which may be due to a faulty mechanism or a faulty element in the propelling charge of the round. A misfire in itself

is not dangerous, but since it cannot be immediately distinguished from a hangfire, or a delay in the functioning of the firing mechanism, it must be treated as a hangfire until such possibility has been eliminated.

c. Hangfire. A hangfire is a delay in the functioning of a propelling charge at the time of fire. The amount of delay is unpredictable but in most cases will fall within the range of a split second to several minutes. It is for this reason that the time intervals prescribed in paragraph 17b should be observed after a failure to fire.

d. Cook-Off. A cook-off is the firing of the chambered round due to the heat of the barrel. This will cause the round to be fired with normal velocity although no attempt was made to fire the gun. A cook-off may occur from ten seconds to five minutes after the round has been in contact with a hot barrel.

17. Immediate Action Procedures for Removing a Round in Case of Failure to Fire.

a. General. Due to the possibility of a hangfire or cook-off after a failure to fire, the following procedure as applicable, will be followed until the round has been removed from the weapon and the cause of failure determined.

(1) Keep the weapon trained on the target. All personnel will stand clear of the muzzle.

(2) Wait five seconds.

WARNING: The bolt must remain closed for the first five sec-

onds due to the possibility of a hangfire.

(3) After the five seconds raise the cover and remove ammunition from feed tray.

(4) Pull the cocking lever to the rear making sure that the sear engages the sear notch in the operating rod. Close cover immediately.

(5) During the retraction of the bolt, observe if the round is extracted and ejected as follows:

(a) If the round is NOT extracted and ejected, observe the following warning:

WARNING: In the event the round is NOT extracted, make one additional attempt to fire by pulling the trigger. If the round does not fire and the barrel is hot, wait at least five minutes (with the bolt in the closed position) due to the possibility of a cook-off. Retract the bolt and remove the round.

(b) When the round is extracted, examine the primer.

1. If the primer IS indented, keep the round separate from the other rounds until disposed of.

2. If the primer is NOT indented, examine the gun to determine the cause of malfunction and correct as necessary.

b. Time intervals. The definite time intervals for waiting after failure of weapon to fire are prescribed as follows:

WARNING: A hangfire will occur within five seconds from the time the primer is struck and a cook-off after ten seconds of contact with the chamber of a hot barrel.

(1) Always keep the round locked in the chamber for five seconds from the time a misfire occurs, before removing the round. This is to insure against explosion outside of the gun in the event a hangfire develops.

(2) Rounds chambered in a hot barrel will be extracted within the next five seconds to prevent a cook-off. NOTE: One hundred fifty rounds fired in a two minute period will make a barrel hot enough to produce a cook-off.

(3) If the round cannot be extracted within the above ten seconds it must remain locked in the chamber for at least five minutes due to the possibility of a cook-off.

18. Double feed.

WARNING: AT NO TIME WILL THE BOLT BE RETRACTED AND ALLOWED TO GO FORWARD WITH AMMUNITION ON THE FEED TRAY AND A LIVE ROUND OR SPENT CASE IN THE BARREL CHAMBER.

a. General. A double feed, with subsequent possibility of damage to the gun and injury to personnel will occur whenever a round is fed into a "chambered" spent case or live round.

b. Double Feed into "Spent" Case. When the gun fails to extract the "spent" case, the bolt automatically will recoil, strip the next round from the belt, and feed it into the chambered round or case. The force of the driving spring

and the bolt, attempting to drive the second round into the blocked chamber, may compress the round sufficiently to cause detonation. Since the bolt is not in the forward or closed position, the detonation would occur out of battery with subsequent possibility of damage to the gun and injury to personnel. To reduce the possibility of failure to extract, as stated above, functionally inspect and test extractor and spring and determine if chamber is clean before firing.

c. Double Feed into Live Round. When a round fails to fire, the bolt remains in the forward or closed position. This causes a stoppage which must be treated as a hangfire (paragraph 16c). If, however, the gun is MANUALLY charged and ammunition is on the feed tray and the live round is not extracted, the next round might be fed into the primer of the first round causing it to fire.

19. Service during Firing.

No service during-firing operations are listed for the machine gun.

20. Unloading.

To unload the machine gun, release the latch lever on the cover assembly and raise cover, then remove link belt. Inspect the chamber to be sure it is clear.

21. Service After Firing.

Perform the after-firing operations as described in table 1.

Section IV. OPERATION UNDER UNUSUAL CONDITIONS

22. General Conditions.

a. In addition to the normal operating procedures for usual conditions, special instructions for operation under unusual conditions are contained herein. In addition to the normal preventive-maintenance service, special care in cleaning and lubrication must be observed where extremes of temperature, humidity, and atmospheric conditions are present or anticipated. Proper cleaning, lubrication, storage, and handling of lubricants not only insure operation and functioning but also guards against wear of the working parts and deterioration of the materiel.

b. See paragraphs 32 through 34 for instructions on lubrication; preventive-maintenance schedules in tables I for checks to be made; and paragraphs 95 through 97 for maintenance procedures applying to unusual conditions.

c. When chronic failure of materiel results from subjection to extreme conditions, report of such chronic failure should be made in accordance with paragraph 3c.

23. Operation in Cold Climates

a. In climates where the temperature is consistently below freezing, it is necessary to prepare the materiel for cold-weather operation.

b. Exercise the various controls through their entire range, at intervals as required, to aid in keeping them from freezing in place and to reduce the effort required to operate them.

c. When materiel is not in use, provide as much protection as possible for all parts of the materiel. Protect the spare parts, tools, and equipment by storing in the carrier provided, when not in use.

d. See TM 9-207 for information on the following points:

Problem of cold-weather operation.

Lubrication in preparation for and during cold-weather operation.

Operation and maintenance in extreme cold.

e. See also FM 31-70 for additional information on operations in the arctic.

24. Operation in Hot Climates

a. General.

(1) In hot climates, the film of oil necessary for operation and preservation will dissipate quickly. Inspect the materiel, paying particular attention to all hidden surfaces such as the guides, recesses, and spring seats in the receiver, and likely places where corrosion might occur and not be quickly noticed.

(2) Perspiration from the hands is a contributing factor to rusting because it contains acids and salts. After handling materiel, clean, wipe dry, and restore the oil film.

b. Hot, Dry Climates. When operating in hot climates, clean and oil the bore of the machine gun more frequently than usual. Rapid temperature changes cause a moisture condensation film to form on unpainted metal, resulting in rust. Immediately, when this moisture film occurs on unpainted metal parts of the weapon, wipe briskly until thoroughly dry and coat with general-purpose lubricating oil (PL special) as required, to prevent rusting.

c. Hot, Damp, and Salty Atmosphere.

(1) Inspect materiel frequently, when operating in hot, moist areas.

(2) When the materiel is active, clean and lubricate the bore and exposed metal surfaces more frequently than is prescribed for normal service.

(3) Moist and salty atmospheres have a tendency to emulsify oils and greases and destroy their rust-preventive qualities. Inspect all parts frequently for corrosion.

(4) When the materiel is inactive, cover unpainted surfaces with a film of general purpose lubricating oil (PL Special).

25. Unusual Terrain Conditions.

a. Sand. Clean and lubricate the materiel more frequently when operating in sandy areas. Exercise particular care to keep sand out of the mechanisms when carrying out inspecting and lubricating operations. Shield parts from flying sand with paulins during disassembly and assembly operations. When commencing an action in sandy areas, remove

lubricant from exposed parts such as bolt, receiver, trigger, feed tray cover, barrel bore and operating rod, situation permitting, as they will pick up sand and form an abrasive which will cause rapid wear. With surfaces dry, there is less wear than when they are coated with lubricant contaminated with sand. Clean and lubricate all exposed parts after the action is over.

b. Mud. Clean and lubricate materiel as soon as possible after operating in areas that are muddy. Exercise particular care to be sure all mud is removed and that the weapon is thoroughly dry before lubricating. Clean and lubricate all exposed parts after action is over.

26. Hand-Carried Fording.

a. Cover weapon carefully to protect from water.

b. Watch carefully for possibility of seepage into internal mechanisms and parts as this would contaminate the lubricant.

c. If accidental immersion occurs, notify organizational maintenance personnel so that complete disassembly, cleaning and lubrication will be accomplished as soon as practicable, regardless of temporary measures taken.

CHAPTER 3

ORGANIZATIONAL MAINTENANCE INSTRUCTIONS

Section I. Repair Parts, Tools, and Equipment

27. General.

Repair parts, tools and equipment are issued to the using organization for operating and maintaining the materiel. Tools and equipment should not be used for purposes other than prescribed and, when not in use should be properly stowed.

28. Repair Parts.

Repair parts are supplied to the using organization for replacement of those parts most likely to become worn, broken, or otherwise unserviceable, providing replacement of these parts is a function of the using organization.

29. Common Tools and Equipment

Common tools and equipment having general application to this materiel are authorized by tables of allowances and tables of organization and equipment.

30. Special Tools and Equipment.

Certain tools and equipment specially designed for operation and maintenance, repair, and general use with the materiel are listed in appendix II.

31. Blank Ammunition Firing Attachment M13

The blank ammunition firing attachment M13 is equipment for the

machine gun and is used only during training. When attached to the weapon make sure the orifice tube is fully inserted into the flash suppressor and the tang snaps into its slot, tighten securely with the wing nut.

CAUTION: Live ammunition must NOT be used in the machine gun while the firing attachment is in place.

Section II Lubrication

32. Lubrication Order

The lubrication order LO 9-1005-228-12 prescribes cleaning and lubrication procedures as to locations, intervals, and proper materials for the machine gun and mount.

33. General Lubrication Instructions

a. Usual Conditions. Lubrication intervals specified on the lubrication order are for normal operation and where moderate temperature and humidity prevail.

b. Reports and Records. Report unsatisfactory performance of prescribed lubricants or preserving materials, using DA Form 2407 (Maintenance Request).

34. Lubrication Under Unusual Conditions.

a. Unusual Conditions. Reduce lubrication intervals specified on the lubrication order to compensate for abnormal operation and extreme conditions, such as high or low temperatures, prolonged periods of high rate operation, continued operation in sand or dust, or exposure to moisture, any one of which may quickly destroy the protective qualities of the lubricant. Location intervals may be extended during inactive periods.

b. Changing Grade of Lubricants. Lubricants are prescribed in accordance with temperature ranges: above zero and below zero. When to change grade of lubricants is determined by maintaining a close check

on the operation of the weapon during the approach to change-over periods in accordance with weather forecast data. Ordinarily, it will be necessary to change grade of lubricants only when air temperatures are consistently in the next higher or lower range.

c. Extreme-Cold Weather Lubrication. See TM 9-207 for instructions on necessary special preliminary lubrication of the weapon.

d. Extreme-Hot Weather Lubrication. Special lubricants will ordinarily not be required at extremely high temperatures, as lubricants prescribed for temperatures above 32^o F. provide adequate protection. However, more frequent servicing than specified in table I, is necessary because the heat tends to dissipate the lubricants.

e. Lubrication for Humid and Salt-Air Conditions. High humidity, moisture, or salt air contaminate lubricants, necessitating more frequent service than specified on table I.

f. After Immersion Lubrication. After immersion, perform the maintenance described in paragraph 98 which covers maintenance operations after immersion and includes special lubrication instructions.

g. Lubrication After Operation Under Sandy or Dusty Conditions. If firing or prolonged travel has occurred under dusty or sandy conditions, clean and inspect all lubricated surfaces for fouled lubricants. Lubricate as necessary.

Section III. Preventive-Maintenance Services

35. General.

Preventive maintenance is the systematic care, inspection, and servicing of equipment to maintain it in serviceable condition, prevent breakdowns, and assure maximum operational readiness. First echelon preventive maintenance is accomplished by the operator. The operator's role in the performance of preventive-maintenance service is:

- a. To perform the daily service each day the equipment is operated.
- b. To assist the organizational maintenance armorer in the performance of any other scheduled periodic services.
- c. To assist the organizational maintenance armorer in the lubrication of the equipment in accordance with the pertinent lubrication order.

36. Responsibility.

Operators are personally responsible for assigned equipment. Squad, section, and platoon leaders are charged with supervisory responsibility for equipment pertaining to their commands. Unit and organization commanders are required to insure that equipment issued or assigned to their commands are properly maintained in a serviceable condition, and that they are properly cared for and used.

37. General Procedures for All Services and Inspections

- a. The following general procedures apply to first echelon preventive-maintenance services and all inspections, and are just as import-

ant as the specific procedures.

b. Inspections to see if items are in good condition, correctly assembled, secure, the extent of wear, and adequately lubricated, apply to most items in the preventive-maintenance and inspection procedures. Any or all of these checks that are pertinent to any item (including supporting, attaching, or connecting members) will be performed automatically, as general procedures, in addition to any specific procedures given.

- (1) Inspection for "good condition" is usually an external visual inspection to determine whether the items are damaged beyond safe or serviceable limits. Good condition is explained further as meaning: not bent or twisted, not chafed or burred, not broken or cracked, not bare or frayed, not dented or collapsed, not deteriorated.
- (2) Inspection to see that the items are "correctly assembled" is usually a visual inspection to see if the parts are in their correct relative position.
- (3) Inspection to determine if the items are "secure" is usually an external visual examination or a check by hand or wrench for looseness. Such an inspection must include any brackets, lockwashers, or rivets.
- (4) By worn is meant worn beyond serviceable limits or to a point likely to result in failure if the part is not replaced

before the next scheduled inspection. Wear of mating parts is usually evidenced by too much play (lash or lost motion.)

(5) Where the instruction "tight" appears in the procedure, it means tighten with a wrench, even if the item appears to be secure.

(6) Such expressions as "adjust if necessary" or "replace if necessary" are not used in the specific procedures. It is understood that whenever inspection reveals the need of adjustment, repairs, or replacement, the necessary action will be taken.

c. Any specific cleaning instructions required for specific mechanism or parts are contained in the pertinent sections. General cleaning instructions are as follows:

(1) Use dry-cleaning solvent (SD) to clean or wash grease or oil from all metal parts, except those exposed to powder fouling during firing. This solvent will not readily dissolve the corrosive salts from powder and primer compositions.

(2) Use solvent cleaning compound (CR) to clean all armament parts except rubber parts that have been exposed to powder fouling during firing.

Note: This compound is not a lubricant. Parts which require lubrication will be wiped dry and oiled.

CAUTION: Care MUST be exercised to avoid getting solvent cleaning compound or oil in the gas cylinder while cleaning the barrel. This can be accomplished by holding the barrel with the gas cylinder in the upright position during cleaning.

(3) After the parts are cleaned, rinse and dry them thoroughly.

Apply a light grade of oil to all polished metal surfaces to prevent rusting.

(4) When authorized to install new parts, remove any preservative materials, such as rust-preventive compound, protective grease, etc.; and for those parts requiring lubrication, apply the lubricant prescribed in the lubrication order .

d. General precautions in cleaning are as follows:

(1) Dry-cleaning solvent is flammable and should not be used near an open flame. Fire extinguishers should be provided when this material is used, Use only in well-ventilated places.

(2) This cleaner evaporates quickly and has a drying effect on the skin. If used without gloves, it may cause cracks in the skin and, in the case of some individuals, a mild irritation or inflammation.

(3) Avoid getting petroleum products, such as dry cleaning solvent or lubricants on rubber parts as they will deteriorate the rubber.

e. To prevent formation of damaging mildew, shake out and air the carrying case for several hours at frequent intervals. Have any rips repaired without delay. Failure to make immediate repairs may allow a minor defect to develop into major damage. The carrying case is best cleaned by scrubbing with a dry brush. If water is necessary to remove dirt, it must not be used until mildew has been removed. If mildew is present, examine fabric carefully for evidence of rotting or weakening of fabric by stretching and pulling. If fabric show indication of loss of tensile strength, it is probably not worth retreatment. If not damaged notify organizational-maintenance personnel so that steps can be taken to have it retreated. Oil and grease can be removed by scrubbing with issue soap and warm water. Rinse well with clear water and dry.

38. Preventive Maintenance by Operator(s)

a. Purpose. To assure maximum operational readiness, it is necessary that the equipment be systematically inspected every day it is operated, so defects may be discovered and corrected before they result in serious damage or failure. Certain scheduled maintenance services will be performed at these designated intervals. Any deficiencies discovered that cannot be corrected by the operator, or corrected by replacing parts will be reported on DA Form 2404.

b. Daily Preventive-Maintenance Service. Each piece of equipment will be inspected each day that it is operated.

39. Basic Preventive Maintenance

The general preventive-maintenance procedures outlined in a through c below will be observed in addition to those referred to in tables I and

II. Special maintenance of specific components of the materiel is covered, when necessary, in the section pertaining to the components.

a. Rust, Dirt, Grit, gummed oil, and water cause rapid deterioration of internal mechanisms. Remove all traces of rust with crocus cloth, wipe clean, and lubricate. Crocus cloth is the coarsest abrasive to be used by the using organization for this purpose.

b. Loose parts will be tightened and broken parts replaced or repaired.

c. Check equipment for completeness. Replace missing items. Use only tools that are provided and see that they are serviceable. After use, items must be thoroughly cleaned, coated with a film of oil, and stowed in the carrying case.

40. Specific Procedures for First Echelon

Table I gives the specific procedures to be performed on the equipment by the operator for each daily service.

41. General.

Preventive maintenance is the systematic care, inspection, and servicing of equipment to maintain it in serviceable condition, prevent

breakdown, and assure maximum operational readiness.

Preventive-maintenance services are:

- a. Performance of the weekly scheduled periodic services.
- b. Lubrication of the equipment in accordance with the pertinent lubrication order.

42. General Procedures.

- a. Automatically Applied. Organizational armorers must be so thoroughly trained in the general procedures (para. 37) that they apply them automatically at all times in the performance of their duties.
- b. First-Echelon Participation. The operator will usually assist the organizational armorer in the performance of second-echelon periodic services.
- c. Services. Second -echelon services are defined by, and restricted to, the following general procedures unless approval has been given by the supporting ordnance organization.
 - (1) Adjust. Make all necessary adjustments in accordance with instructions contained in the pertinent section of this manual.
 - (2) Clean. Clean the unit as outlined in paragraph 37 to remove old lubricant, dirt, and other foreign material.
 - (3) Lubrication. This applies to lubrication operations that do not appear on the lubrication order.
 - (4) Service. This usually consists of cleaning, preserving, and replenishing lubricants.

Table I

Operators Preventive Maintenance Checks and Services

1st Echelon

Daily Schedule

Interval and Sequence

Before firing	During Firing	After Firing	Items to be inspected	Procedure
1.	- -	- -	Barrel	Assure that bore is dry and free of obstruction.
2.	- -	- -	Gas Cylinder	Check gas cylinder plug to see that it is tight in the gas cylinder.
3.	- -	- -	Barrel Lock	Check to assure positive retention of barrel.
4.	- -	- -	Cover Group	Manually operate cover group to assure freedom of movement. Test cover latch to assure positive locking action of cover.
5.	- -	- -	Machine Gun	Assure compliance with pertinent lubrication order.
6.	- -	- -	Safety	Place safety in down position (towards the "S"). Attempt to fire weapon.
7.	- -	- -	Operating Rod Group and Sear	Manually operate machine gun to assure positive retention of rod by the sear.

43. Specific Procedure for Second Echelon

Table II gives the specific procedures to be performed on the equipment by second echelon personnel for each weekly service.

Table II

Preventive Maintenance Checks and Services

2nd Echelon

Weekly Schedule

Sequence No.	Items to be inspected	
1.	Operating Rod Assembly	Inspect for and remove rough surfaces with fine file or stone. See that roller pin is staked and that roller in guide moves freely. Notify ordnance maintenance personnel if defective.
2.	Bolt Assembly	Examine ejector and extractor for proper functioning. Replace defective parts. Rear face of locking lugs will be free of chipping.
3.	Receiver group	Check to ascertain all rivets are secure.
4.	Buffer	Check for indications of oil having entered tube. Check retainer pin hole in housing for elongation.
5.	Magazine Bracket	Inspect bracket for bent and/or missing guides.

Section IV. Troubleshooting

44. Scope

This section contains troubleshooting information and tests for locating and correcting some of the troubles which may develop in the materiel. Troubleshooting is the systematic study of trouble signs, testing to determine the defective component, and applying corrective action. Each malfunction is followed by probable causes and suggested procedures to be followed.

45. Troubleshooting

Table III is intended as a guide in troubleshooting. This table does not cover all possible malfunctions that may occur. Only the more common malfunctions are listed. The tests and corrective actions are governed by the scope of the operator or organizational level of maintenance.

Table III. Troubleshooting

Malfunction	Probable Cause	Corrective Action
MACHINE GUN		
Failure to feed	Insufficient gas pressure.	Clean gas port.
	Feed pawl defective.	Replace
	Feed pawl spring defective.	Replace
	Front and rear cartridge guides defective.	Replace
	Feed lever cam spring defective.	Replace
	Bolt cam actuator roller defective.	Replace
	Defective cover latch lever.	Replace
	Damaged or weakened operating rod spring.	Replace
	Obstruction by foreign substances or material in receiver.	Remove item blocking movements, clean and lubricate as required.
Failure to chamber	Ruptured cartridge case.	Remove
	Caked carbon in gas cylinder or receiver.	Clean as required
Failure to fire	Broken or damaged firing pin.	Replace (Check aperture in face of bolt).
	Broken or damaged firing pin spring.	Replace
	Weakened or damaged operating rod spring.	Replace
Failure to extract	Broken extractor or spring.	Replace
	Gas (floating) piston installed backwards.	Install properly
Failure to eject	Frozen or damaged ejector or ejector spring.	Clean and/or replace
Failure to cock	Broken sear.	Replace
	Deformed operating rod sear notch.	Replace
	Obstructions in receiver.	Clean as required
	Broken, defective or missing sear plunger and/or spring.	Replace
	Short recoil.	Clean gasport and cylinder
Uncontrolled fire	Broken or worn sear.	Replace
	Worn sear notch on operating rod.	Replace

Section V. Barrel Assembly

46. General.

a. The barrel assembly consists of the barrel, front sight, flash suppressor, carrying handle, and gas cylinder retaining lug.

b. When a round is fired, the expanding gases propel the projectile through the barrel into its trajectory. As the projectile passes the orifice, about eight inches from the muzzle, these gasses pressurize the gas cylinder and force the floating gas piston to move rearward. The piston forces the operating rod assembly rearward, which causes the operating rod yoke to:

(1) Retract the firing pin.

(2) Disengage the bolt from the barrel, extracting the fired cartridge case.

(3) Effect subsequent cycle of ejection and feeding.

47. Removal

To remove the barrel assembly (1, fig. 4) be sure the gun is cocked and on safe. Raise the barrel lock lever at extreme right front of receiver to a vertical position and using handle withdraw the barrel from the receiver.

48. Disassembly

No further disassembly is required.

49. Cleaning, Inspection and Repair

a. Cleaning. Clean out carbon in gasport by reaming with reamer on wrench 7790680.

Note: Care should be taken when inserting the reamer so that the barrel will not be damaged.

Clean burned powder residues from bore and chamber using solvent cleaning compound (CR). Use rod 6508237 and brush 6554174 for cleaning the bore.

b. Inspection. Check front sight for bent, distorted or loose condition.

c. Repair. If unserviceable, replace barrel assembly.

50. Installation.

a. Cock gun and engage safety.

b. Raise barrel lock to a vertical position.

c. Insert barrel assembly into receiver making sure the gas cylinder retaining lug is properly engaged and lock barrel by moving the barrel lock to horizontal position.

d. Release safety; holding cocking handle to the rear, press trigger and slowly release handle from cocked position.

51. Adjustment. There is no adjustment necessary for the barrel assembly, i. e., checking and adjusting of headspace, etc.

Section VI Bipod Assembly and Gas Cylinder Group

52. General.

The bipod assembly and gas cylinder group consists of a bipod, bipod pivot, gas cylinder, piston, gas cylinder extension and retainer.

53. Removal

a. To remove the bipod assembly and gas cylinder group, rotate the bipod (legs in vertical position) 180 degrees, slide forward and remove from receiver assembly.

b. Separate gas cylinder group from bipod assembly.

54. Disassembly

a. The bipod assembly will not normally be disassembled.

b. The gas cylinder group will be disassembled as follows:

(1) Tip gas cylinder and allow piston to slide out.

(2) Remove retainer.

(3) Remove extension from gas cylinder.

55. Cleaning, Inspection and Repair

a. Cleaning. Clean gas cylinder and components using solvent cleaning compound (CR) and brush.

CAUTION: Do not use abrasives of any kind on piston or cylinder.

Do not oil piston or gas cylinder.

b. Inspection. Check gas piston and cylinder for scratches, cracks, and damage.

c. Repair. If unserviceable, replace.

56. Assembly

- a. Install extension into gas cylinder.
- b. Align slots in gas cylinder and extension and install retainer.

Note: Retainer must be installed so that closed side is toward barrel.

- c. Install piston.

57. Installation.

- a. Align lug on gas cylinder with recess in bipod pivot, and slide cylinder into pivot.
- b. With receiver upside down, slide bipod assembly and gas cylinder group onto receiver, and seat fully (lug on receiver aligned with recesses in gas cylinder and bipod assembly. Rotate receiver 180 degrees to secure.

Section VII. Trigger Mechanism Assembly

58. General

- a. The trigger mechanism grip assembly consists of the trigger assembly, sear, sear plunger, safety, safety plunger, two springs, and two retaining pins.
- b. The trigger mechanism assembly fits under the forward portion of the receiver. It is secured to the receiver by a notched lug at the rear of the trigger housing and one retaining pin inserted through the receiver and trigger mechanism. The two pins are secured and held in place by the leaf spring. The trigger disengages the sear from the sear notch of the operating rod, permitting forward movement of the operating rod during the firing cycle of the gun. When the safety is engaged it (1) prohibits movement of the trigger, preventing disengagement of the sear from the sear notch of the operating rod; and (2) makes it impossible for the recoiling parts to move forward.

Note: The bolt must be retracted BEFORE the safety is engaged.

59. Removal.

CAUTION: Before removal, the recoiling parts must be in battery position. Move safety to "FIRE" position. Pull the cocking handle all the way to the rear, then pull the trigger and ease the recoiling parts to battery position. This will prevent damage to the feed tray.

- a. Remove the leaf spring from right side of trigger mechanism grip assembly.
- b. Push out the retaining pin.
- c. Slide the mechanism forward and downward to remove from weapon.

60. Disassembly

Normally, there should be no further disassembly of the trigger mechanism assembly. If further disassembly of the mechanism is necessary to clean the powder fouled parts, it must be performed as outlined below.

Note: The key numbers shown below in parentheses refer to figure 5 .

- a. Remove retaining pin (1), sear (2), sear plunger (3) and spring (4) from trigger housing assembly (10).
- b. Remove headed shoulder pin (8) securing trigger assembly (9) in trigger housing assembly and remove trigger assembly.
- c. No further disassembly is authorized.

61. Cleaning, Inspection and Repair

- a. Cleaning. Immerse the parts except the trigger housing assembly in dry cleaning solvent (SD). Clean the housing with a dry cloth.
- b. Inspection. Visually inspect for dirt, rust, or other defects that may affect operation.
- c. Repair. If the trigger mechanism grip assembly is worn or broken, replace.

62. Assembly.

Note: The key numbers shown below in parentheses refer to figure 5 .

a. Insert the trigger assembly (9) in trigger housing assembly (10) and secure with the headed shoulder pin (8).

b. Install the spring (4), sear plunger (3) and sear (2) into housing assembly and secure with the retaining pin (1).

CAUTION: Sear will be installed so that the sear notch is in the rear upward position in order to engage sear notch in the operating rod.

63. Installation.

a. Position notched lug of trigger mechanism assembly in slot on bottom of receiver and raise grip to align with holes in receiver.

b. Insert retaining pin through the receiver and the holes provided in the front of the trigger mechanism.

c. Secure the trigger mechanism grip assembly to receiver by attaching leaf spring to the two retaining pins.

Section VIII. Butt Stock Assembly

64. General.

The butt stock assembly (fig.6) is secured to the rear of the weapon by a latch, which locks it to the buffer assembly. It consists of a shoulder rest assembly and a swivel which secures the sling. The stock is rubber coated.

65. Removal.

- a. Open shoulder rest on end of stock.
- b. Insert the nose of a dummy round in aperture of butt plate recess and compress the latch that secures the stock.
- c. Pull the stock rearward to remove from buffer assembly.

66. Disassembly and Assembly

The stock will not be disassembled.

67. Cleaning, Inspection and Repair.

- a. Cleaning. Use clean, dry cloth to clean stock.

Note: After cleaning, the parts shall be thoroughly dried.

- (1) Check latch in stock to see if spring is broken, weak or otherwise unserviceable.

- (2) Examine swivel on stock to see if it is broken or otherwise unserviceable.

- c. Repair. If stock is unserviceable, replace.

68. Installation.

- a. Position stock on rear of receiver; push forward.
- b. The latch will engage the buffer thus securing it to the gun.

Section IX Forearm Assembly

69. General.

The forearm assembly (fig. 7) is secured to the forward part of the receiver by a spring type latch on the bottom of the forearm. It contains a swivel on the left side which secures the sling. The forearm is rubber coated on the external surfaces for protection of the hands when firing.

70. Removal.

- a. Remove the barrel assembly and bipod assembly (para. 47).
- b. Insert nose of dummy round in aperture in bottom of the forearm assembly and push to compress latch.
- c. While releasing latch, slide assembly forward and lift off.

71. Disassembly

The forearm assembly will not normally be disassembled. If further disassembly is required depress latch, slide forward to disengage, and remove latch. Lift out spring.

72. Cleaning, Inspection and Repair.

- a. Cleaning. Use a clean, dry cloth to wipe forearm assembly.
- b. Inspection.

(1) Check spring in forearm assembly to see if it is broken, weak, or otherwise unserviceable.

(2) Inspect swivel for broken or other unserviceable conditions.

c. Repair. If forearm assembly is unserviceable, replace.

73. Installation.

a. Fit forearm assembly over front of receiver.

b. Slide rearward and press into position until catch in forearm

locks within slot on bottom of receiver.

c. Install barrel assembly (para.50.).

Section X. Cover Assembly and Tray Assembly Group

74. General.

a. The cover assembly and tray assembly group (fig. 8) is composed of cover assembly, cartridge feed tray assembly, cover hinge pin, and spring.

b. The cover and tray assemblies control the feeding of ammunition. The rearward action of the bolt moves the feed cam and feed pawl assemblies, which, in turn, position successive cartridges in line to be chambered by the bolt. The tray assembly and cartridge guides hold the cartridges in position until the bolt strips the round for chambering.

75. Removal.

a. To remove cover assembly and tray assembly group from the receiver, turn latch lever assembly clockwise and raise cover to a vertical position.

b. Press forward on right side of spring.

c. Press out hinge pin using bullet nose of cartridge,

d. Lift cover assembly and remove. Remove tray assembly.

76. Disassembly.

a. To disassemble cover assembly:

(1) Remove cover hinge spring.

(2) Release feed cam spring from engagement with feed cam stud and lift out feed cam assembly.

(3) Exert downward pressure on front guide to depress retaining washer and spring. Using pointed end of guide rod (fig. 9)

hold washer and spring in depressed position and slide front guide out of cover assembly.

(4) Remove rear guide using same procedure.

(5) Cover assembly will not be disassembled further.

b. To disassemble tray assembly:

(1) Drift out spring pin (fig. 8).

(2) Separate components.

77. Cleaning, Inspection and Repair

a. Cleaning

(1) Powder - fouled parts. Use solvent cleaning compound (CR) to clean parts.

(2) Other parts. Use dry-cleaning solvent (SD) to clean parts with the exception of the cover. Use a clean, dry cloth to clean the cover.

b. Inspection.

(1) Check for broken or otherwise damaged parts.

(2) Manually operate cover group to assure freedom of movement.

(3) After installation, test latch lever assembly to assure positive locking action.

c. Repair.

(1) Cover Assembly. If cover is in need of repair, return gun to Ordnance maintenance personnel.

- (4) Tray assembly. If parts are in need of repair, replace tray assembly.

78. Tray Assembly.

Reassemble cover and tray components reversing procedure outlined in paragraph 76.

79. Installation.

- a. Position tray on receiver.
- b. Install spring in cover and insert protruding end of spring into hole in receiver. Fit cover (vertically) over tray.
- c. Insert cover hinge pin from right side and press in to seat fully.
- d. Close cover.

Section XI

Buffer Assembly and Operating Rod Assembly Group

80. General.

a. The buffer assembly and operating rod assembly group is composed of the retaining buffer yoke, buffer assembly, driving spring guide assembly, driving spring and operating rod assembly. They are retained in the lower portion of the receiver by the yoke.

b. The operating rod assembly functions on slides in the receiver. It is forced forward by the action of the spring when the sear is released by the trigger. After the projectile passes the gas port in the barrel, the expanding gas forces the piston rearward propelling the rod to the rear and recocking the weapon. The braking action, of the buffer pads and compression springs in the buffer, reduces the recoil and shock action during firing.

81. Removal.

a. Remove trigger mechanism grip assembly (para. 59).

Note: Prior removal of trigger mechanism is not necessary, provided the gun is in battery position.

b. Remove stock (para. 65).

c. Remove the cover and tray assemblies (para. 75.)

d. Hold palm of hand against the exposed end of the buffer assembly.

e. Press slightly against the buffer with one hand and remove the retaining buffer yoke from the top of the receiver with the other hand.

f. Remove the buffer assembly, driving spring guide assembly and spring.

g. To remove the operating rod assembly and bolt assembly pull the cocking handle rearward.

Note: When removing the operating rod assembly and bolt assembly make certain that the bolt protrudes ONLY half-way from the receiver so camming surface is shown.

h. Insert retaining buffer yoke between rear spool and front portion of camming surface of bolt.

Note: This retains the firing pin in a cocked position, making it easier to disassemble to bolt assembly from the operating rod assembly by slightly rotating the bolt towards the rod.

i. Grasp the bolt and remove bolt and operating rod assembly from receiver.

82. Disassembly.

No further disassembly is required.

83. Cleaning, Inspection and Repair.

a. Cleaning.

(1) Wipe the buffer assembly with a clean, dry cloth. This is the only authorized cleaning of the buffer. Do NOT use cleaners or lubrication.

(2) Use solvent cleaning compound (CR) to clean guide, spring, rod and yoke.

b. Inspection.

- (1) Visually inspect for dirt, rust, or other defects that may affect operation.
- (2) Inspect for and remove rough surfaces with a fine file or stone.
- (3) See that roller pin is staked and that roller in guide moves freely.

c. Repair.

If buffer assembly or spring, guide, yoke or rod assembly are un-serviceable, replace.

84. Installation.

- a. Place the camming yoke of the operating rod assembly into the bolt assembly.
- b. Insert the rod and bolt into the rear of the receiver far enough for the bolt to contact the sides of the receiver and remove the retaining buffer yoke. Slide the bolt and rod in the receiver as far as it will go.
- c. Insert the spring and driving spring guide assembly into the rear of the receiver and push forward until the bolt is in battery position.
- d. Insert buffer and lock in place with retaining buffer yoke.
- e. If trigger mechanism grip assembly had been removed, install in accordance with instructions contained in paragraph 63.
- f. Install cover and tray group (para. 79).
- g. Install the stock (para. 68.).
- h. Close cover.

Section XII Bolt Assembly

85. General.

The bolt assembly is positioned on the operating rod yoke of the operating rod assembly, with the firing pin in the cocked position when it is inserted in the receiver. The bolt depends on the driving force of the driving spring to carry it forward. The driving force cams and locks the lugs within the barrel and projects the firing pin forward to strike the round. The bolt feeds, chambers, and fires the cartridge and extracts and ejects the case.

86. Removal.

Refer to paragraph 81 for removal of bolt assembly.

87. Disassembly.

- a. Align holes of actuator assembly with lock pin and push out pin with either a dummy cartridge nose or the driving spring guide.
- b. Unscrew plug and pin assembly and remove the actuator assembly, firing pin spring, firing pin bearing, and firing pin.
- c. Press in on ejector and remove ejector pin using a 1/16-inch punch. Slowly withdraw punch making sure ejector and ejector spring do not fly out.
- d. Using the driving spring guide, compress the extractor plunger and remove the extractor, extractor plunger and extractor spring.

88. Cleaning, Inspection and Repair.

a. Cleaning. Use solvent cleaning compound (CR) to clean parts.

b. Inspection.

(1) Check for broken or otherwise unserviceable parts.

(2) Examine ejector and extractor for proper functioning.

c. Repair

(1) Replace unserviceable parts with the exception of the bolt.

(2) If bolt is unserviceable return gun to Ordnance maintenance personnel.

(3) Remove raised surfaces on cam surface by stoning.

89. Assembly

a. Insert the extractor spring and extractor plunger into bolt. Using the driving spring guide, compress the plunger and insert the extractor.

b. Insert the ejector spring and ejector into the bolt. Press in on ejector, insert the ejector pin from the top. Use a proper center punch and upset the pin on the bottom.

c. Insert the firing pin, firing pin bearing, firing pin spring and actuator assembly into the bolt. Screw in the plug and pin assembly until finger tight, align holes by backing plug out and insert lock pin.

90. Installation. Refer to paragraph 84 for installation of bolt assembly.

Section XIII Receiver Group

91. General.

The receiver group is the body of the machine gun housing the bolt, buffer and operating rod assembly. The magazine hanger is located on the left side and the rear sight is located on the top front of the receiver.

92. Removal

- a. Remove the barrel assembly (para. 47).
- b. Remove the bipod assembly and gas cylinder group (para. 53.).
- c. Remove the trigger mechanism assembly (para. 59.).
- d. Remove the butt stock assembly (para. 65.).
- e. Remove forearm assembly (para. 70.).
- f. Remove the cover assembly and tray assembly group (para. 75.).
- g. Remove the bolt assembly, buffer and operating rod group (para. 81.).

93. Disassembly

No further disassembly is necessary.

94. Cleaning, Inspection and Repair

a. Cleaning

- (1) Powder - fouled parts. Use solvent cleaning compound (CR) and brush 7790342.

- (2) Other parts. Use dry-cleaning solvent (SD).

b. Inspection.

- (1) Inspect for damaged or broken parts. Examine slides in receiver for wear or distortion.
- (2) Examine all components to ascertain that the rivets are secure.
- (3) After installation of major groups and assemblies, manually operate machine gun to assure positive retention of rod by the sear.

c. Repair.

- (1) When other parts become worn or otherwise damaged return weapon to Ordnance maintenance personnel for repair or replacement.

95. Installation.

Install components in reverse order of disassembly (para. 92).

Section XIV. Maintenance Under Unusual Conditions.

96. Extreme-Cold Weather Maintenance.

See TM 9-207 for information on extreme-cold weather maintenance.

97. Extreme-Hot weather Maintenance

a. In hot, damp climates, corrosive action on all parts of the gun will occur and will be accelerated in areas of high humidity and during the rainy season. Evidence will appear in the form of rust on metal surfaces and mildew or fungi mold on the carrying case.

b. Protect unfinished exposed metal surfaces with general-purpose lubricating oil (PL special).

c. Make frequent inspection of inactive weapons and mounts. Remove corrosion from exterior surfaces with crocus cloth and apply a protective coating of oil or suitable rust preventive, as required.

98. Maintenance After Immersion

a. General. During hand-carried fording, water seepage into lubricated parts such as the receiver, bolt assembly, cover assembly, etc., will occur. It is advisable, therefore, that the service outlined in b below be accomplished on all weapons and mounts which have been immersed or completely submerged in water, especially in salt water, and that precautions outlined in (1) through (3) below be taken as soon as practical to halt deterioration and avoid damage to the weapons and mounts.

(1) Perform a complete lubrication service (paras. 33 - 35).

(2) Assemblies which require disassembly for proper lubrication must be disassembled, cleaned, lubricated and assembled as soon as the situation permits.

(3) Regardless of the temporary measures taken, notify Ordnance maintenance personnel so that complete disassembly, cleaning, and lubrication can be accomplished as soon as practical.

b. Cleaning and Lubrication. Drain or wipe dry all trapped moisture.

Clean all exposed parts and coat with a film of general-purpose lubricating oil (PL special).

CHAPTER 4
AMMUNITION

Refer to TM 9-1005-224-12

CHAPTER 5

DEMOLITION OF MATERIEL TO PREVENT ENEMY USE

Refer to TM 9-1005-224-12.

APPENDIX I

REFERENCES

Refer to TM 9-1005-224-12.

APPENDIX II
BASIC ISSUE ITEMS LIST

Refer to TM 9-1005-224-12.

APPENDIX III
MAINTENANCE ALLOCATION CHARTS

Refer to TM 9-1005-224-12.



19-058-443/AMC-65

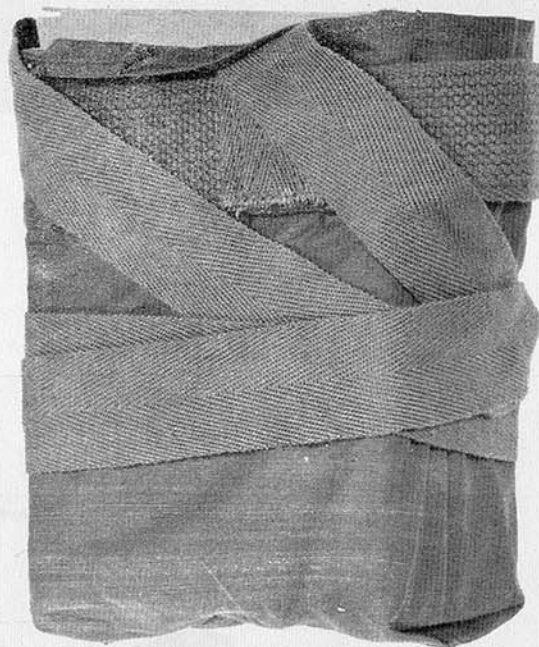
U. S. ARMY - SPRINGFIELD ARMORY
MACHINE GUN, 7.62MM, M60 (MOD)

16 Aug 65

Figure 1



Magazine Assembly



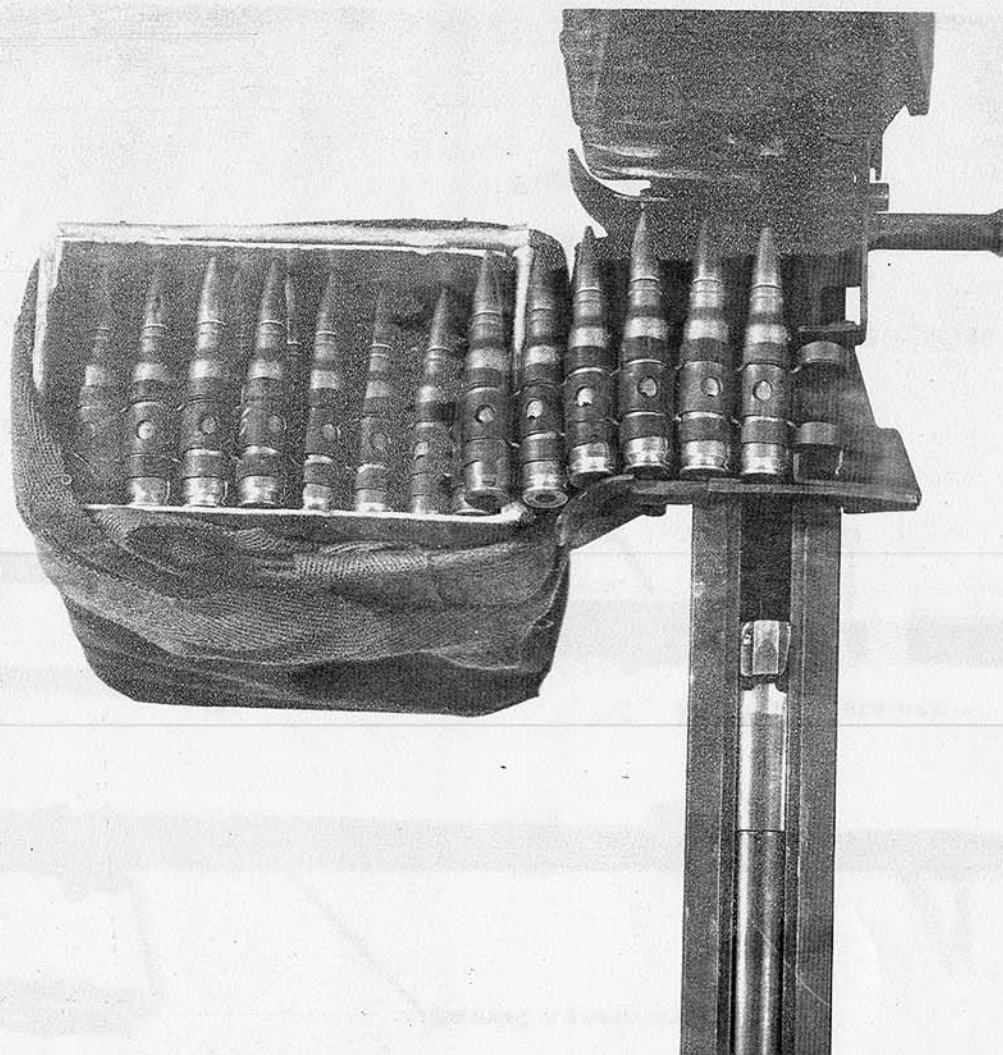
Bandoleer

19-058-908/AMC-65

U.S. ARMY - SPRINGFIELD ARMORY
MACHINE GUN, 7.62MM, M60 (MOD)

16 Aug 65

Figure 2



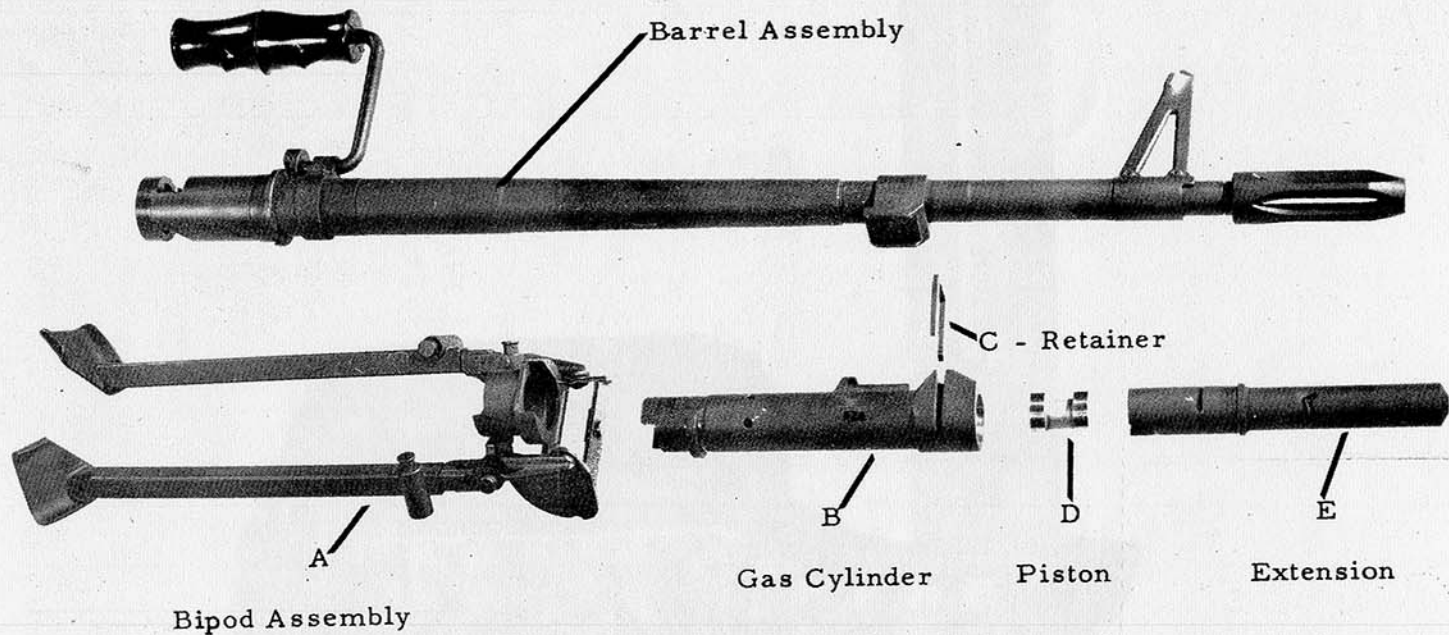
19-058-860/AMC-65

U.S. ARMY - SPRINGFIELD ARMORY

16 Aug 65

MACHINE GUN, 7.62MM, M60 (MOD)
Positioning of Round on Feed Tray

Figure 3



19-058-445/AMC-65

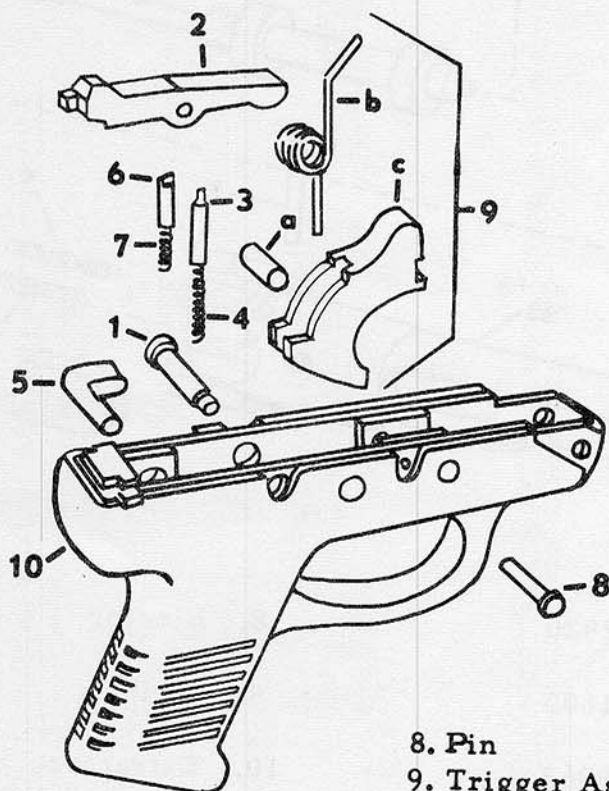
U. S. ARMY - SPRINGFIELD ARMORY

16 Aug 65

MACHINE GUN, 7.62MM, M60 (MOD)
Barrel Assembly, Bipod Assembly & Gas Cylinder Group

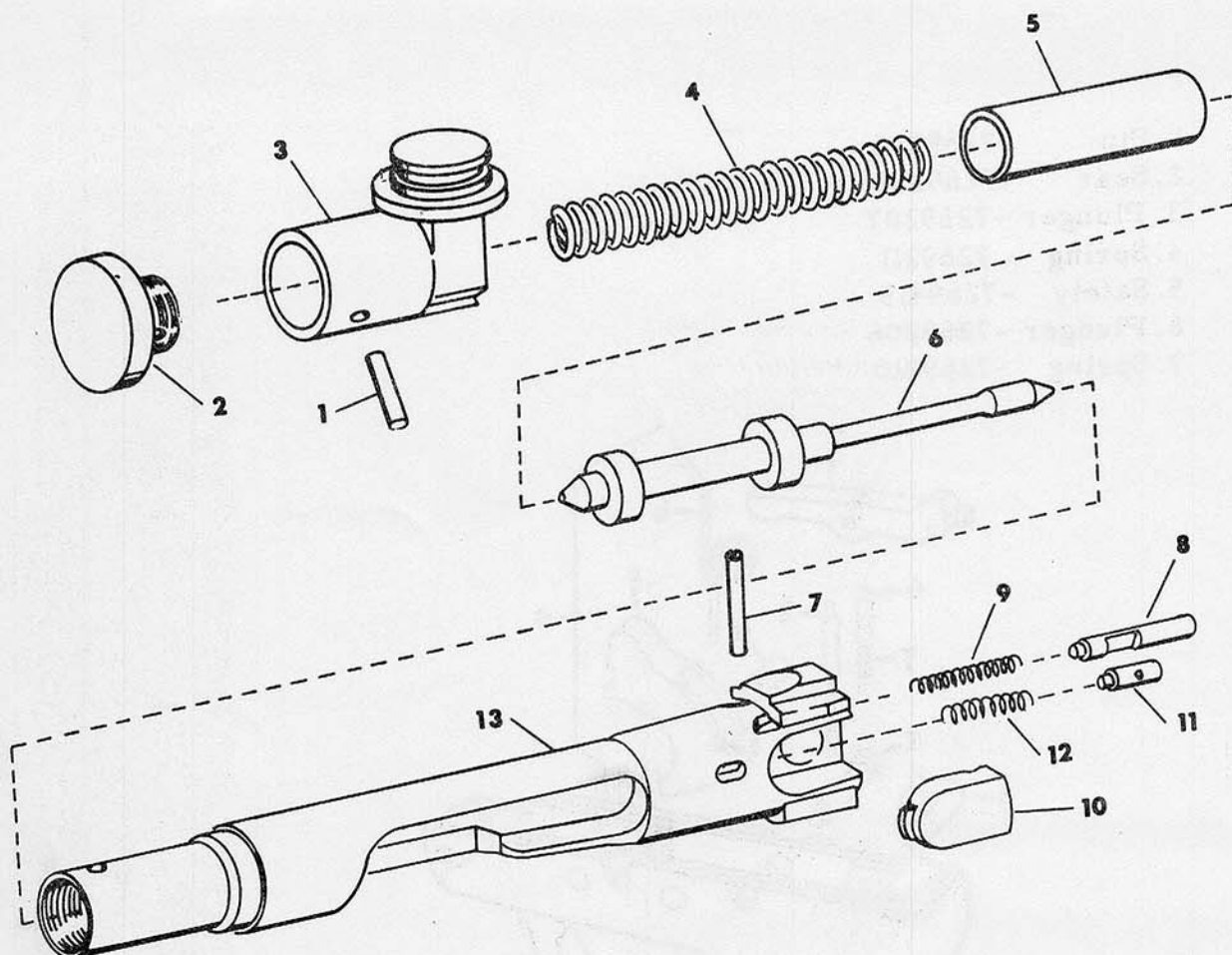
Figure 4

- 1. Pin -7269205
- 2. Sear -7269209
- 3. Plunger -7269207
- 4. Spring -7269211
- 5. Safety -7269415
- 6. Plunger -7269206
- 7. Spring -7269210



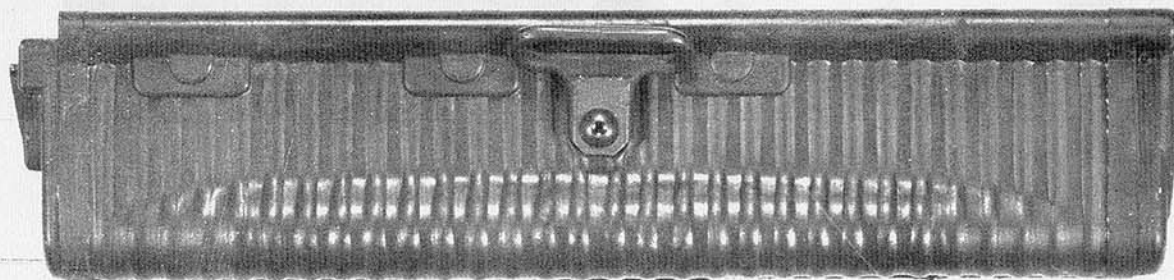
- 8. Pin -7267204
- 9. Trigger Assembly-7269212
 - a. Pin -7269229
 - b. Spring -7269230
 - c. Trigger -7269228
- 10. Housing Assembly-7269203

TRIGGER MECHANISM ASSEMBLY
FIGURE 5



1. Pin	7792920	8. Ejector	11010375
2. Plug	7791600	9. Spring	7269085
3. Actuator	7269063	10. Extractor	7790907
4. Spring	7269087	11. Plunger	7269083
5. Bearing	7269065	12. Spring	7269086
6. Pin	7269081	13. Bolt	7269060
7. Pin, spring	MS39086-81		

FIGURE 6
BOLT ASSEMBLY



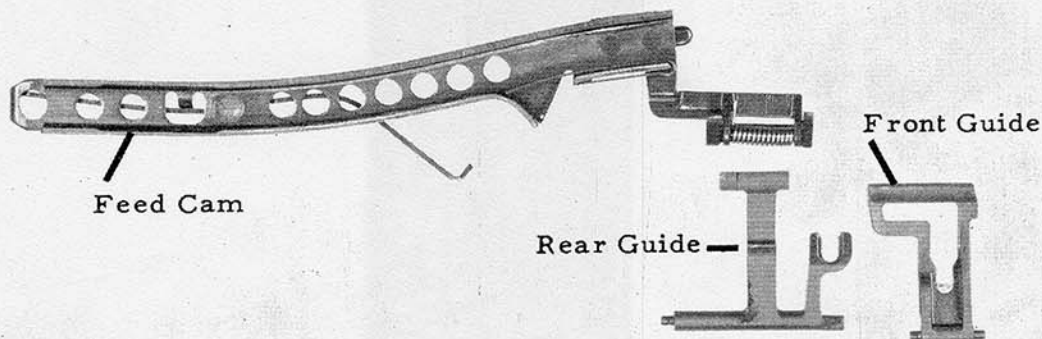
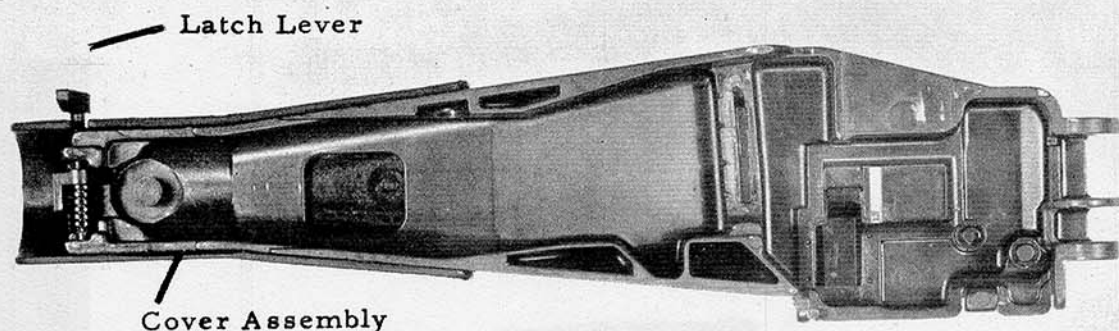
19-058-909/AMC-65

U.S. ARMY - SPRINGFIELD ARMORY

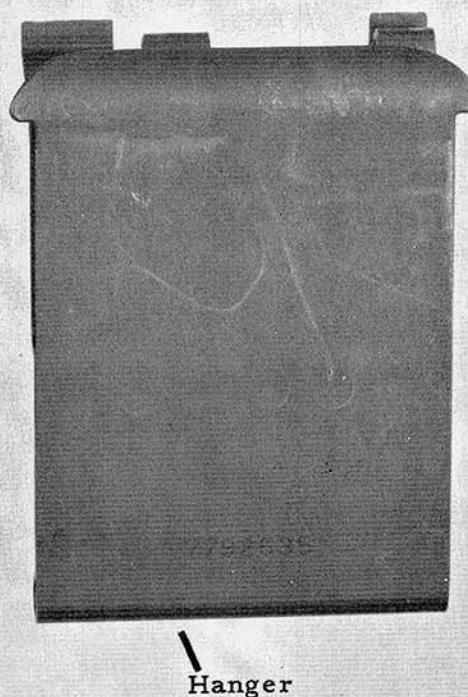
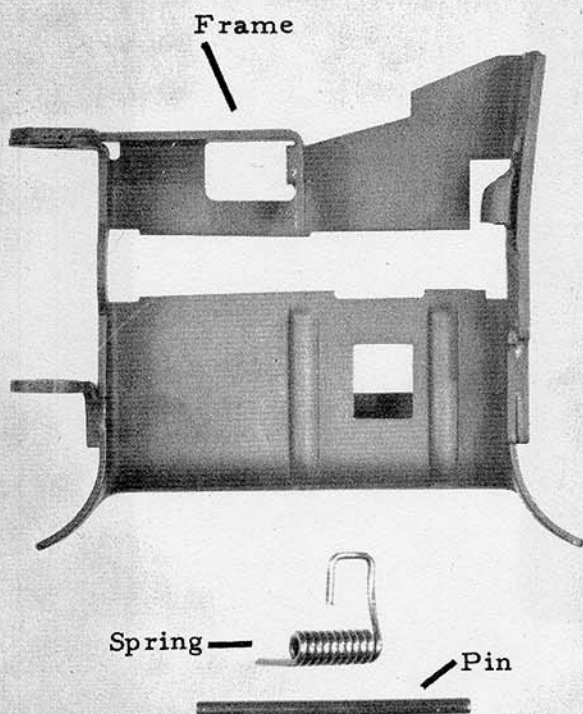
16 Aug 65

MACHINE GUN, 7.62MM, M60 (MOD)
Forearm Assembly

Figure 7



COVER ASSEMBLY



FEED TRAY ASSEMBLY

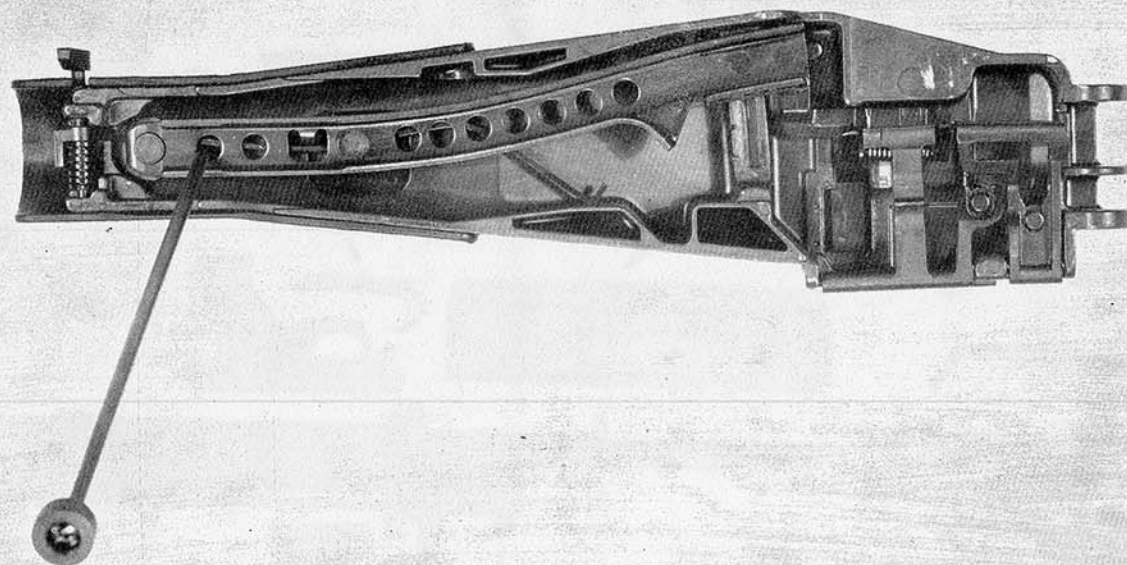
19-058-1384/AMC-64

U. S. ARMY - SPRINGFIELD ARMORY

16 Aug 65

MACHINE GUN, 7.62MM, M60 (MOD)
Cover and Feed Tray Group

Figure 8



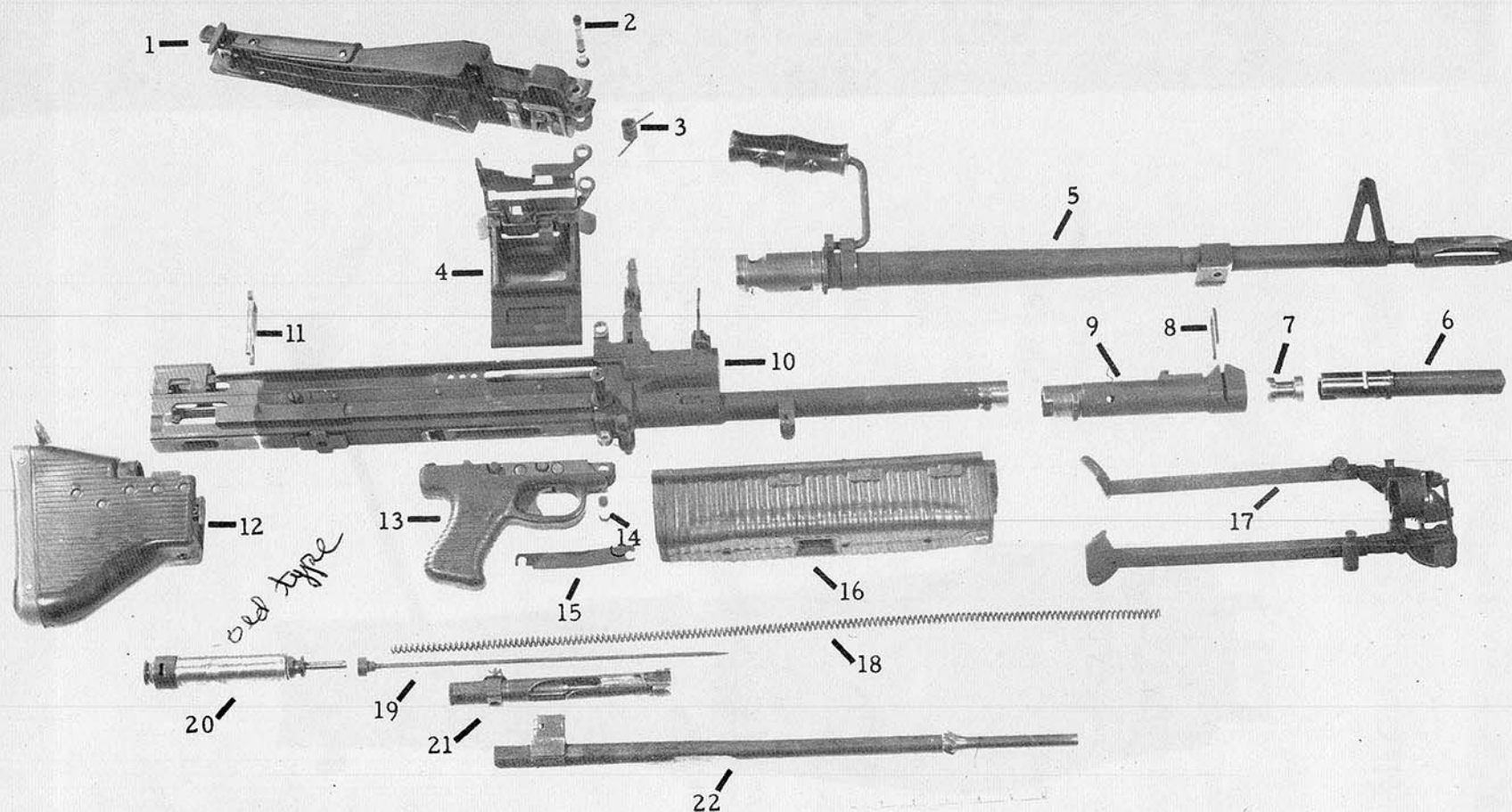
19-058-910/AMC-65

U. S. ARMY - SPRINGFIELD ARMORY

16 Aug 65

MACHINE GUN, 7.62MM, M60 (MOD)
Removal of Feed Cam Assembly

Figure 9



19-058-862/AMC-65

U. S. ARMY - SPRINGFIELD ARMORY

16 Aug 65

MACHINE GUN, 7.62MM, M60 (MOD)
Major Groups

Figure 10

1. Cover Assembly	7792609
2. Pin	11010165
3. Spring	7792639
4. Tray Assembly	11010209
5. Barrel Assembly	11699855
6. Extension, gas cylinder	11699852
7. Piston, gas	11699851
8. Retainer	11699848
9. Cylinder, gas	11699853
10. Receiver Assembly	11699850
11. Yoke, buffer	7269344
12. Stock Assembly, butt	11010459
13. Grip Assembly	7269202
14. Pin	7269205
15. Spring	7792398
16. Forearm Assembly	7792649
17. Bipod Assembly	11699854
18. Spring, driving	7269303
19. Guide Assembly	7239199
20. Buffer Assembly	7269096
21. Bolt Assembly	11010357
22. Operating Rod Assembly	11686309

Legend For Figure 10